

Secrecy, Ostentation, and the Illustration of Exotic Animals in Sixteenth-Century Portugal

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Summary

During the first decades of the sixteenth century, several animals described and viewed as exotic by the Europeans were regularly shipped from India to Lisbon. This paper addresses the relevance of these ‘new’ animals to knowledge and visual representations of the natural world. It discusses their cultural and scientific meaning in Portuguese travel literature of the period as well as printed illustrations, charts and tapestries. This paper suggests that Portugal did not make the most of its unique position in bringing news and animals from Asia. This was either because secrecy associated with trade and military interests hindered the diffusion of illustrations presented in Portuguese travel literature or because the illustrations commissioned by the nobility were represented on expensive media such as parchments and tapestries and remained treasured possessions. However, the essay also proposes that the Portuguese contributed to a new sense of the experience and meaning of nature and that they were crucial mediators in access to new knowledge and new ways of representing the natural world during this period.

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1. Introduction

On 20 May 1498, Vasco da Gama’s fleet landed on Calicut. The Portuguese had thus succeeded in opening the sea route connecting India with the Atlantic ports. After the discovery of the Atlantic sea route to India, a vast network of fortresses and trading-stations was soon constructed along the coast of the Indian Ocean and the Portuguese capital became the main centre linking Europe and Asia in the first decades of the sixteenth century.¹ Live animals, who were easily captured and

¹ On the Portuguese empire in Asia, see S. Subrahmanyam, *The Portuguese Empire in Asia, 1500–1700: A Political and Economic History* (London, 1993); M. Newitt, *A History of Portuguese Overseas Expansion, 1400–1668* (London, 2005); D. Studnicki-Gizbert, *A Nation Upon the Ocean Sea: Portugals Atlantic Diaspora and the Crisis of the Spanish Empire, 1492–1640* (Oxford, 2007).

transported, were regularly shipped to Lisbon. These included monkeys and parrots as well as other animals never before seen in Europe, such as the emu and the dodo. In addition, besides spices, diamonds, pearls and other rare items from the Orient, animal products such as elephant tusks, rhinoceros horns, bezoar stones, musk, animal skins, and bird feathers were also commonly sent to Lisbon.² The distribution of exotic animals in Europe was then organized through foreign merchants living in the capital or through Portuguese trading-stations located in the main centres of European commerce. Several of the animals and products brought by the Portuguese to Europe were highly prized due to their rarity, supposed medical virtues and decorative value, and became part of cabinets of curiosities that increasingly become fashionable in Renaissance Europe.

Larger animals such as the elephant and the rhinoceros were also sent from India in the Portuguese *naus*. It is known that at least thirteen Asian elephants were imported into Europe via Portugal during the sixteenth century as well two Indian rhinoceros.³ If the small exotic animals were traded in Europe as new commodities which the bourgeoisie could afford, larger animals such as the elephant and the rhinoceros circulated in Europe as part of a gift economy among the nobility. These large gifts were tangible signs of European overseas expansion, whether through trade or conquest, into regions where 'the marvels of the East' could be found.

Together with the arrival in Europe of these exotic animals and their products, narratives describing the new regions of the East encountered by the Portuguese reached Lisbon. They included geographical, ethnographical, military, and commercial information, and often news about the animals and plants found in these new territories. The importance of travel literature which grew during the first half of the sixteenth century is not simply that it gave Europe many informed descriptions of non-European lands, plants, animals, and peoples, but also that it structured the genre on the basis of the practical interests of merchants, soldiers, and crown officials.⁴

In a recent article, Jorge Canizares-Esguerra has asserted that the Iberians first created a culture of empirical, experimental, and utilitarian knowledge gathering of massive proportions that did not take its cue from the Classics or the learned, but from merchants, enterprising settlers, and bureaucrats.⁵ However, Canizares-Esguerra's reflection is mainly based on Spanish sources, leaving out the Portuguese contributions to natural history in the sixteenth century. In another work, Canizares-Esguerra himself acknowledges the lack of studies in this area concerning Portugal.⁶ Another recent and excellent publication has called attention to the importance of trade in the production of natural knowledge in early modern Europe.⁷ Unfortunately, it does not include any Portuguese case study.

² N. Vassalo e Silva, 'Preciosidades e Maravilhas entre Goa e Lisboa', in *Exotica: Os Descobrimentos e as Câmaras de Maravilhas do Renascimento*, edited by H. Trnnek and N. Vassallo Silva (Lisbon, 2001), pp. 27–37.

³ See D.F. Lach, *Asia in the Making of Europe*, 2 vols (Chicago, 1970), p. 120.

⁴ J.-P. Rubiés, *Travel and Ethnology in the Renaissance: South India Through European Eyes, 1250–1625* (Cambridge, 2000), p. 2.

⁵ J. Canizares-Esguerra, 'Iberian Science in the Renaissance: Ignored How Much Longer', *Perspectives on Science* 12 (2004) 86–124, p. 86.

⁶ J. Cañizares-Esguerra, 'Iberian Colonial Science', *Isis* 96 (2005) 64–70, p. 70.

⁷ P.H. Smith and P. Findlen (eds.), *Merchants & Marvels: Commerce, Science and Art in Early Modern Europe* (New York, 2002). Harold J. Cook also called attention to the importance of commerce in the development of Dutch natural history and medicine. See H.J. Cook, *Matters of Exchange: Commerce, Medicine and Science in the Dutch Golden Age* (New Haven, CT, 2007).

The main aim of this paper is therefore to contribute towards the acknowledgement of the importance of Portugal in the historiography of natural history in early modern Europe.⁸ In particular, I want to address the question of the relevance of the arrival of news and live animals from Asia to visual representations of the natural world. What was the role of illustrations of exotic animals in generating a new sense of the natural world? What were the various meanings attributed to the exotic animals depicted in the illustrations? What was the significance of the media in which they were represented? What was the role of animals and animal products brought by the Portuguese from Asia in the new culture of collecting and in the new discourse about nature that would become a central cultural force in Western society?

2. The place of exotic animals in Portuguese travel literature

Descriptions of Asian fauna were already included in Alvaro Velho's narrative of Vasco da Gama's first trip to India. Noted, in particular, were the elephant's ways of fighting, as well as several traditional methods used to capture them in the wild.⁹ At a later date, other works such as Duarte Barbosa's *Book of what has been seen and heard in the Orient*, written between 1511 and 1516, make reference to serpents, and elephants, as well as to some of the valuable products made from Asian animals such as musk, bezoar stones and pearls found in the Persian Gulf.¹⁰

The earliest extensive account of the East written by a Portuguese is *The Suma Oriental* of Tomé Pires, a royal apothecary sent to India in 1511 in search of new drugs. The work seems to have been commissioned by King D. Manuel I and to have been written between 1512 and 1515. Besides geographical, ethnographical, and commercial information, it includes knowledge with medical relevance and the description of a few animals such as the hooded rattlesnake:

The cobras de *capello* are small and black, as thick as your thumb and three or four spans long. They have fangs, and the loose skin on their heads makes a kind of covering called a hood (*capello*) when they raise them. If these snakes bite, they kill at once.¹¹

Gaspar Correia's *Legends from India*, probably written in 1512, presents one of the first European descriptions of the Indian rhinoceros:

it is a gentle beast, low but long-bodied. It has the skin, hands and feet of an elephant and a long head and eyes close to the snout like a pig. Above the

⁸ On the historiography of Portuguese imperial science, see P. Fontes da Costa and H. Leitão, 'Portuguese Imperial Science: A Historiographical Review', in *Science, Power and the Order of Nature in the Spanish and Portuguese Empires*, edited by D. Bleichmar, P. De Vos, K. Huffine (Stanford, CA, 2008), pp. 35–53).

⁹ This narrative is attributed to Álvaro Velho. It was not published but several manuscript copies seem to have circulated in the period. See J.M. Garcia, *As Viagens dos Descobrimentos* (Lisbon, 1983), pp. 219–20.

¹⁰ D. Barbosa, [*Livro do que viu e ouviu no Oriente*, c. 1511–1516], *The book of Duarte Barbosa: an account of the countries bordering on the Indian Ocean and their inhabitants* [translated from the Portuguese text by M.L. Dames (London, 1918–1921), I, p. 198.

¹¹ T. Pires, [*The Suma Oriental*, c. 1512–1515] *The Suma Oriental of Tomé Pires*, edited and translated by A. Cortesão (London, 1944), I, p. 172.

nostrils, it has a short, thick horn which is finer at the tip. It eats grass, straw and cooked rice.¹²

Likewise, the first description of the Oriental filander, a hitherto unknown marsupial in the West, is to be found in *A Treatise on the Molucas Islands*, written between 1536 and 1538 and attributed to António Galvão:

Some mammals resemble ferrets, only a little bigger. They are called *Kusus*. They have a long tail with which they hang from the trees in which they live constantly, winding it once or twice around a branch. On their belly they have a pocket like an intermediate balcony; as soon as they give birth to a young one they grow it inside there at a nipple until it does not need nursing anymore. As soon as she has born and nourished it, the mother becomes pregnant again. The people eat them like rabbits, seasoned with spices.¹³

Also described are civet cats, apes, extremely long snakes, crocodiles, and various kinds of birds and fishes.¹⁴

It is worth remarking not only the novelty of these and other descriptions of animals included in the literature associated with the Portuguese discoveries but also the fact that at least some of them were based on first-hand observation. In fact, the majority of the authors had travelled to the East and some of them had stayed for some years in the regions described in their works. Most of them were involved in the Portuguese efforts to conquer and build trading links with the East. António Galvão, for example, was Captain of the Molucas while he wrote his treatise on this archipelago and Duarte Barbosa was a clerk in the trading-station of Cananor.

Indeed, some of the authors of Portuguese travel literature were aware of the value of personal experience in the encounter with and description of nature.¹⁵ Pires pointed out that 'We here have been through everything, and experienced it and seen it'.¹⁶ Similarly, Duarte Pacheco Pereira in his *Esmeraldo de Sito Orbis* (c.1505–08) described experience as the 'mother of knowledge, [that] removes all doubt and misapprehension'. In addition, Luís de Camões in *The Lusiads* (1572), cherished 'Knowledge of experiences made'.¹⁷

However, this does not mean that suspect and extraordinary relations were completely discarded in Portuguese travel literature. Galvão mentioned that many had assured him that along the coast of Melinde there were fish with the shape and genitals of a woman and that they went on foot most of the time.¹⁸ In addition, he stated that he himself had seen oysters with shells so big they served

¹² Quoted in A.F. da Costa, *Les déambulations du rhinocéros de Modofar* (Lisbon, 1937), p. 46. Gaspar Correias' *Lendas da Índia* is translated into English. See G. Correia, *The three voyages of Vasco da Gama and his viceroyalty from the Lendas da Índia*, translated from the Portuguese with notes and an introduction by H. Stanley (London, 1869).

¹³ A. Galvão, [*O Tratado das Molucas*, c.1544] *A Treatise on the Moluccas*, edited and translated by M. Jacobs (Rome, 1971), p. 61.

¹⁴ *Ibid.*, pp. 61–69.

¹⁵ Antonio Barrera has also shown that experience assumed a new role in validating knowledge from the New World in sixteenth-century Spain. See A. Barrera, 'Local Herbs, Global Medicines: Commerce, Knowledge, and Commodities', in *Merchants & Marvels: Commerce, Science and Art in Early Modern Europe*, edited by P.H. Smith and P. Findlen (New York), pp. 163–81.

¹⁶ Pires (note 10), I, Preface.

¹⁷ D.P. Pereira, *Esmeraldo de situ orbis*, edited and translated by G. Kimble (London, 1937), p. 12.

¹⁸ Galvão (note 12), p. 67

for baptismal fonts and pigs ate on them and that many people assured him that the city of Delhi had a gate made of the eye of a fish and that an elephant can pass through it.¹⁹ Similarly, Pires alluded to the 'men with big ears who cover themselves with them', an account which had already been celebrated by Pliny the Elder in his *Natural History*. Nevertheless, Pires is careful in asserting that he 'never saw anyone who saw anyone else who had seen them. This story should be given no more importance than it deserves'.²⁰ If, in the densely layered view of the Renaissance, fact and fiction as well as symbol and datum were often combined in literary and visual culture, it is also true that the literature associated with the Portuguese discoveries testifies to the increasing importance of issues of testimony, not only in terms of personal observation but also in terms of the kind of persons worthy of credit and their number.²¹

However, the Portuguese literature in which descriptions of exotic animals were included had one major limitation. It was not published during the first half of the sixteenth century and circulated only in manuscript form.²² This situation severely limited their impact in Portugal and even more so in other European countries. The availability of the press did not end the circulation of texts in the form of manuscripts. It is known, for instance, that fourteen copies of Barbosa's *Book of what has been seen and heard in the Orient* have survived.²³ What happened is that manuscripts become more used for private and personal purposes.²⁴ This could help explain why some of the relations commissioned by Portuguese kings or other officials were not published in the period but it is insufficient to explain the total lack of publications of this kind of literature before the middle of the sixteenth century.

Jaime Cortesão and other historians have suggested that the non-publication of texts can, at least in part, be associated with a policy of secrecy that was one of the hallmarks of the Portuguese discoveries.²⁵ Indeed, there is some evidence that a policy of suppressing news about African and Asian discoveries and trade was carried out by the Portuguese crown in the sixteenth century.²⁶ It seems to be only by

¹⁹ *Ibid.*, p. 69.

²⁰ Pires (note 10), II, p. 449.

²¹ The history of credit and proof concerning natural knowledge in the early modern period has recently received considerable attention. See, among others, L. Daston, 'Baconian Facts, Academic Civility, and the Prehistory of Objectivity', *Annals of Scholarship* 8 (1991) 337–63; S. Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago, 1995); R. W. Serjeantson, 'Testimony and proof in early-modern England', *Studies In History and Philosophy of Science Part A*, 30 (1999) 195–236.

²² J.O. Caetano, *Gravura e conhecimento do mundo: o livro ilustrado nas coleções da Biblioteca Nacional*, Biblioteca Nacional de Lisboa (Lisbon, 1998), p. 16.

²³ J.M.H. Massari, *Libros de Viajes de los siglos XVI y XVII en España y Portugal: Lectura e Lectores* (Madrid, 1999), p. 42.

²⁴ *Ibid.*, p. 41.

²⁵ See A. Pimpão, 'A Historiografia Oficial e o Sigilo sobre os Descobrimentos', in *Congresso da História da Expansão Portuguesa no Mundo*, 1 secção (Lisbon, 1938), F.C. Domingues, 'Colombo e a Política de Sigilo na Historiografia Portuguesa', *Mare Liberum* 1 (1990) 105–16, J.B. de Macedo, *O Carácter Europeu dos Descobrimentos e o Sigilo Nacional na sua Realização* (Lisbon, 1994), and J. Cortesão, *A Política de Sigilo nos Descobrimentos* (Lisbon, 1996).

²⁶ In his analysis, Lach repeatedly puts forward the argument for a Portuguese 'control' of information. See Lach (note 2), I, pp. 151–54. The view has, however, received criticism since it is difficult to prove that there was a systematic attempt to prevent any information about new lands to 'leak' into the hands of foreign competitors, but there is little doubt that, at least in the sixteenth century Iberian Peninsula, governments organized their own sources and information relating to colonies as matters of state. See Rubiés (note 3), pp. 3–4.

the middle of this century that such restriction began to broke down, when it became evident that Portugal would be unable to continue monopolizing the spice trade and that there were many uncertainties and much indecision over the future of the Portuguese mercantile empire.

It should also be remarked that the relations associated with the Portuguese discoveries seem not to have been published due to a lack of printers interested in the enterprise. The Moravian printer Valentim Fernandes, who arrived in Lisbon between 1494 and 1495, had a special interest in travel literature and was the editor of the voyage of Marco Polo in 1502.²⁷ He had close contacts with the Royal family and, at various times, compiled information about India that he dispatched to Germany.²⁸ Fernandes was certainly aware of the potential success of the Portuguese travel literature of the period but was unable to obtain licences for publication or to have access to the relations.²⁹

Some of the Portuguese travel accounts were published by the Venetian civil servant Giovanni Battista Ramusio in his *first volume Della Navigazioni et Viaggi* (1550). This work includes Barbosa's *Book of What Has Been Seen and Heard in the Orient* and part of Pires's *The Suma Oriental*. Significantly, and probably in accordance with the policy of secrecy of the Portuguese Crown, what is excluded from Pires' text is information about the Spice Islands and the East Indies.³⁰

The circulation of Portuguese travel literature in manuscript form also had implications for the inclusion of illustrations in these works. In fact, if it was already difficult to obtain reliable copies of manuscripts, the manual reproduction of images was all the more difficult or even unfeasible. This is probably one of the reasons why illustrations were seldom present in the surviving manuscripts associated with the Portuguese discoveries of the first half of the sixteenth century. One exception is Gabriel Rebelo's *History of the Molucas Islands* written in 1561.³¹ The original manuscript includes five folios by an unknown painter. One of these represents two animals from these islands: the Oriental filander, a marsupial which had been previously reported on by António Galvão (Figure 1), and a fish named the cow-fish which had also been described by this author (Figure 2).³² Both illustrations can be considered representative of a naturalistic style, which included detailed description and the use of conventions of shadowing to achieve effects of verisimilitude and realism.³³ This new mode of

²⁷ See A. Anselmo, *L'Activité Typographique de Valentim Fernandes au Portugal (1495–1518)* (Paris, 1984); Y. Hendrich, *Valentim Fernandes: ein deutscher Buchdrucker in Portugal um die Wende vom 15. zum 16. Jahrhundert und sein Umkreis* (Frankfurt-am-Main, 2007).

²⁸ An illustrative example is Fernandes' letter sent on June 26, 1510 to a correspondent in Nuremberg which summarized events that had taken place in Asia from 1506 to 1509, including the Portuguese arrival in Ceylon. See A. Brásio, 'Uma Carta Inédita de Valentim Fernandes', *Boletim Bibliográfico da Universidade de Coimbra* 24 (1959) 338–58.

²⁹ J.R. Pinto, *A Viagem: Memória e Espaço, A Literatura Portuguesa de Viagens Revisitada, os Primitivos Relatos de Viagem ao Índico 1497–1550* (Unpublished PhD dissertation, Universidade de Lisboa, 1987), pp. 211–12.

³⁰ Pires (note 10), p. lxvii.

³¹ Códice 923, p. 70, Portuguese National Library.

³² Galvão (note 12), p. 67.

³³ On the issue of what could be considered a naturalistic representation in the period, see A.J.S. Ackerman, 'Early Renaissance 'Naturalism' and Scientific Illustration', in *The Natural Sciences and the Arts: Aspects of Interaction from the Renaissance to the 20th Century. An International Symposium*, edited by A. Ellenius (Uppsala, 1985), pp. 1–17. See also P.H. Smith, 'Artists as scientists: nature and realism in early modern Europe', *Endeavour* 24 (2000), 13–21.



Figure 1. *Filandra of the East*, drawing by an unknown artist. In Gabriel Rebelo, *História das Ilhas Maluco* (1561). Codice 923, Portuguese National Library, Lisbon. Courtesy of the Portuguese National Library.

depiction was employed increasingly by other European artists of the period. Even when it was not entirely precise, it appeared to be the result of a new emphasis on first-hand observation. This emphasis was also pointed to by the authors of some of the written observations on exotic animals included in the Portuguese literature, such as Gabriel Rebelo. We do not have any information concerning interaction between Rebelo and the unknown author of the drawings or indeed if he was the author, but we cannot avoid the question of whether the illustration of the fish-cow was drawn from life. In fact, unlike the filander, which was very common in the Molucas, the fish-cow is described as a rare specimen; Rebelo himself admits to having seen one only once. One of the problems faced by Portuguese authors of the period was how to draw what they had barely seen and could scarcely imagine. They often sought inspiration in the merging of the familiar with the strange to create the exotic. This seems to have been the case of the visual

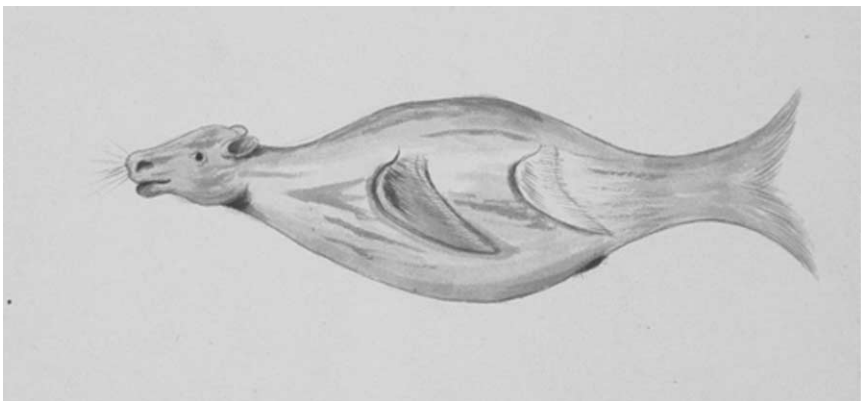


Figure 2. *Fish-cow*, drawing by an unknown artist. In Gabriel Rebelo, *História das Ilhas Maluco* (1561), Codice 923, Portuguese National Library, Lisbon. Courtesy of the Portuguese National Library.

representation of the fish-cow. Recent scholarship has also reminded us that naturalistic images did not always imply a theoretical commitment to observing nature for its own sake. The mediation between nature and art sometimes produced counterfeit images that played with the viewers' presuppositions about verisimilitude.³⁴

Another unpublished work from the middle of the sixteenth century presents, together with illustrations of the customs of Indian and Portuguese people living in India, some representations of exotic animals such as the elephant, various kinds of birds, and two hooded rattlesnakes as well as an illustration of a snake with two heads (Figure 3).³⁵ Like other visual representations of nature from the period, they are said to be 'copied from life'. The schematic features of the drawing are not characteristic of the naturalistic style of representation that flourished in Europe during this period. Although the art historian Pedro Dias has suggested that they were commissioned by a Portuguese noble but made by an Indian artist, others have argued that the illustrations were certainly drawn by a Portuguese artist living in Goa.³⁶

Roberto Barchiesi has suggested that the painter of the pictorial itinerary presented in codex Casatanense used, but not exclusively, Barbosa and Pires' travel accounts.³⁷ Luís de Matos has, however, argued that at least the majority of drawings presented in the codice are the result of direct observation and that certain rituals and images depicted in the work are not mentioned in Barbosa or Pires' texts. One of the animals represented in the codex, the hooded rattlesnake, is an animal described by both.³⁸ Together with this animal, an image of a snake with two heads is also presented. Its inclusion testifies to the fact that not all representations were based on direct observation. Moreover, the rare and the unexpected was still associated with the East.

It was during the second half of the sixteenth century that works associated with the Portuguese Discoveries were published. However, illustrations in these continued to be rare. Fernão Lopes da Castanheda's *History of the Discoveries and the Conquest of India by the Portuguese* (1552–1561), for example, describes some of the animals and plants from the Island of Ceylon, but the text is not accompanied by an illustration.³⁹ The general lack of illustrations in this kind of literature is related to the fact that they implied a significant increase in the final price of the works. More importantly, woodcut engravings of drawings of completely new images of animals and plants encountered by the Portuguese in Asia and other parts of the world implied an extra effort and cost in their

³⁴ P.H. Smith and P. Findlen, 'Commerce and the Representation of Nature in Art and Science', in *Merchants & Marvels: Commerce, Science and Art in Early Modern Europe*, edited by P.H. Smith and P. Findlen (New York, 2002), pp. 1–25 (p.11).

³⁵ *Imagens do Oriente no século XVI: Reprodução do Códice Português da Biblioteca Casatanense*, edited by L. Matos (Lisbon, 1985).

³⁶ See P. Dias, *História da Arte Portuguesa no Mundo, 1415–1822: Espaço Índico* (Lisbon, 1998), p. 218 and L. Matos, 'Introdução', in *Imagens do Oriente no século XVI: Reprodução do Códice Português da Biblioteca Casatanense*, edited by L. Matos (Lisbon, 1985), p. 24.

³⁷ R. Barchiesi, 'O manuscrito pictórico da Casanatense', in *Além Mar: Códice Casanatense 1889 com o livro do Oriente de Duarte Barbosa*, with texts by C. Guadalupi, C. Boxer, R. Barchiesi and an introduction by F. Braudel (Lisbon, 1984), p. 298.

³⁸ Barbosa (note 9), II, p. 83 and Pires (note 10), I, p. 172.

³⁹ F. Lopes da Castanheda, *História do Descobrimento da Índia pelos Portugueses*, 2 vols (Coimbra, 1552), II, pp. 260–63.

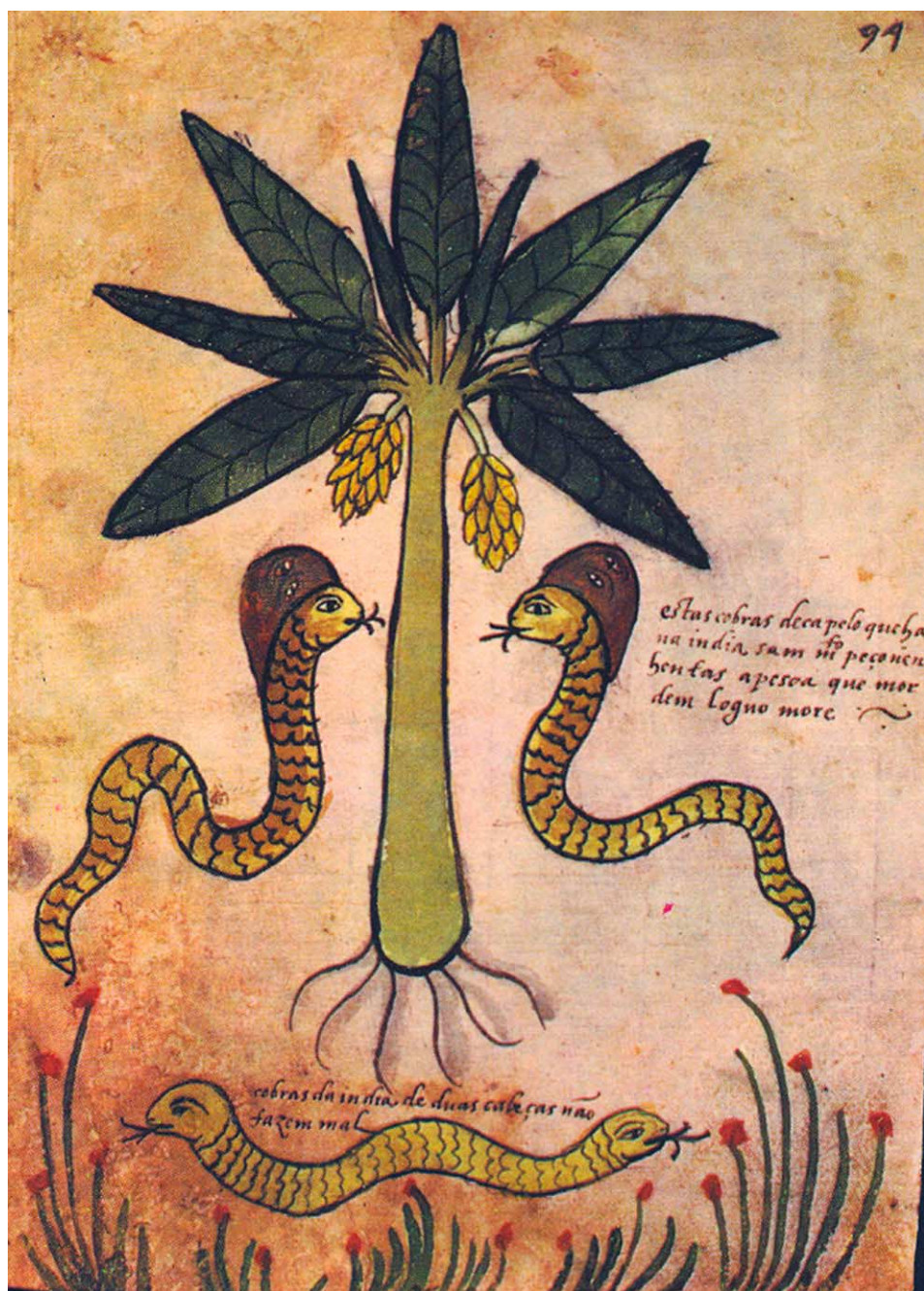


Figure 3. Two Hooded Rattlesnakes and a Snake with Two Heads, colour drawing by an unknown artist. In *Imagens do Oriente no século XVI: Reprodução do Códice Português da Biblioteca Casatanense* (L. de Matos, ed.), Lisboa: Imprensa Nacional Casa da Moeda, 1985. Courtesy of the Portuguese National Library.

publication.⁴⁰ The situation was aggravated due to the poor tradition of woodcut engraving in Portugal during this period.⁴¹ It is, therefore, not surprising that most of the illustrations published in Portugal during the sixteenth century belonged to religious works in which old models could easily be used or new models borrowed from other European countries.

The first printed illustrations of the elephant by a Portuguese author are to be found in Cristovão da Costa's *Treatise on drugs and medicines from Eastern India with their plants drawn from life* (1578) which was not published in Portugal but in Spain.⁴² The work was in great part based on Garcia de Orta's *Colloquies on the Simples and Drugs of India* (1563).⁴³ It explicitly acknowledges the importance of pictures in the making and diffusion of natural knowledge:

There was a substantial imperfection in [Orta's] work, which was the absence of drawings of the plants described, for Dr. Orta was concerned with more serious matters and did not include any. It appeared to me that the book would be most useful for our nation in showing the novelties found there, and that drawings and illustrations would make them more well-known. It also appeared to me that this could only be accomplished if people saw them for themselves with their own eyes. ... I decided to take on this work and draw each plant from life, including the root.⁴⁴

Among the forty-six illustrations of plants, two illustrations of an Indian elephant are also presented. One represents an elephant leaning against the trunk of a coconut palm and the other represents an elephant prepared for war, with a model castle on his back (Figure 4). Costa asserts that the drawings are based on first-hand observation. He seems to use a part-schematized, part naturalistic visual style that was characteristic of some of the visual works of the period.⁴⁵ As Sachiko Kusukawa has shown, Carolus Clusius was critical of the pictures in Costa's original edition, and the first edition *Aromatum et medicamentorum [...] liber* (1582), Clusius' epitome of Costa's work, contained only two illustrations, only one of which had been

⁴⁰ On printing techniques, see W.M. Ivins, *Prints and Visual Communication* (Cambridge, MA, 1989).

⁴¹ E. Soares, *Evolução da Gravura de Madeira em Portugal, séculos XV a XIX* (Lisbon, 1951), p. 12, and J.V. de Pina Martins, 'O livro Português no Reinado de D. Manuel I', *Panorama*, 32 (1969), 58–75, p. 59.

⁴² Cristovão da Costa was born in the African territory and came to India in 1568 as a physician/surgeon in the fleet of D. Luis de Ataíde, the Portuguese Viceroy to India. In 1571 he left for Lisbon and finally Spain where he worked as a medical practitioner in the town of Burgos till 1586. He died most likely in 1594.

⁴³ Orta's *Colloquies* was the first work to systematise the knowledge and medical applications of some of the new plants encountered by the Portuguese and other Europeans in Asia. It does not present any illustration, and we do not have any information on Orta's views of the use of pictures in the diffusion of medical and natural historical knowledge. Besides, the genre of the work might have also contributed to the absence of illustrations: it was presented in the form of a dialogue between a fictitious Dr Ruano and Orta himself. We should also bear in mind the cost and effort involved in including illustrations in printed works and that the printing press had recently been introduced in Goa, De Orta's *Colloquies* being just the third work published in this territory by the Portuguese. Orta's *Colloquies* is translated into English and French. See G. de Orta, *Colloquies on the Simple and Drugs of India*, translated by C. Markham (Delhi, 1987) and G. de Orta, *Colloques des simples et des drogues de l'Inde*, edited by S.M. Ramos and A. Ramos and translated by S. Ramos (Paris, 2004). On Orta's contribution to natural history, see R.N. Kapil and A.K. Bhatnagar, 'Portuguese Contributions to Indian Botany', *ISIS* 67(1976) 449–52.

⁴⁴ C. da Costa, *Tratado delas Drogas y medicinas de las Indias Orientales, con sus plantas debuxadas al bivo por Christoval Acosta medico y cirujano que las vio ocularmente* (Burgos, 1578), 'Al Lector'.

⁴⁵ See P.M. Jones, 'Image, word, and Medicine in the Middle Ages', in *Visualizing Medieval Medicine and Natural History, 1200–1550*, edited by J.A. Givens, K.M. Reeds and A. Touwaide (London, 2006), pp. 25–50.

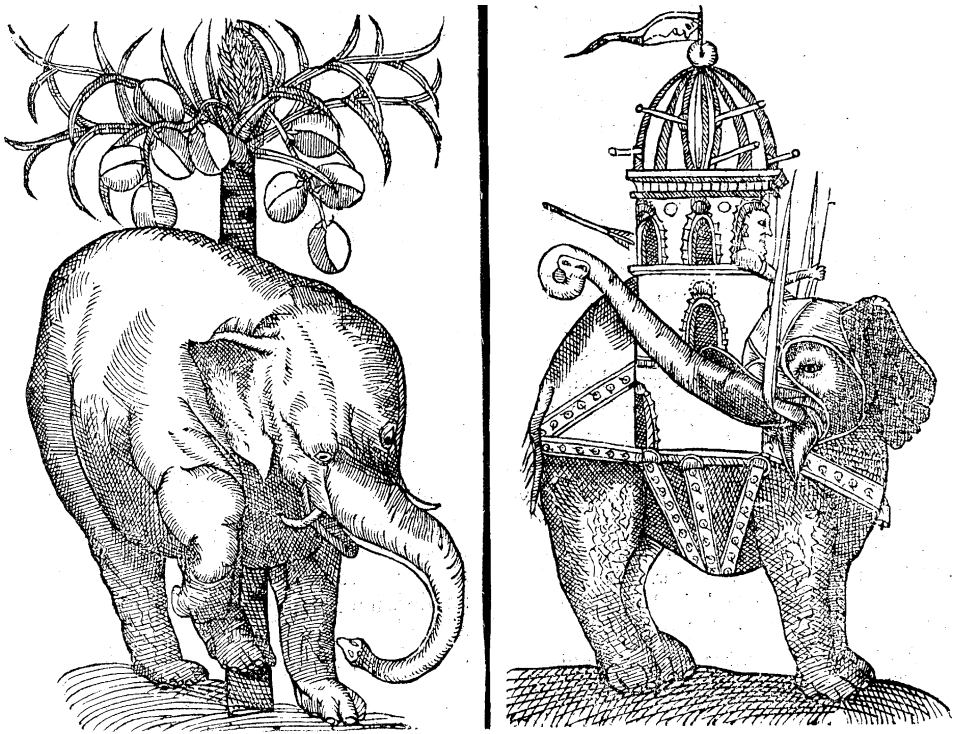


Figure 4. Elephant Near a Palm Tree, Woodcut engraving in Cristovão da Costa, *Treatise on Drugs and Medicines from Eastern India with Their Plants Drawn from Life* (1578). Courtesy of the Portuguese National Library.

copied from the original edition but with the purpose of showing how false and unreliable it was.⁴⁶ Alongside it, Clusius included what he considered a 'proper' and 'legitimate' picture of the same plant. The inclusion of a new and more naturalistic representations represented an added value for Clusius and his readers. On the one hand, the new illustrations reinforced Clusius' authorship of the epitome as well as the innovative value of his contribution. On the other, as Claudia Swan has remarked, naturalistic images of nature had an extra value since they were able to close the gap between textual knowledge of nature and experience of it, especially in a period when texts tended to lag behind images in so far as they tend to depend on classical authority.⁴⁷

Not only visual representations but also poetic images of the new animals encountered by the Portuguese discoverers reached Europe in the sixteenth century. The most well-known work in which such images can be found is the epic poem *The Lusíadas* by Luís de Camões. The poet not only refers to various monsters and

⁴⁶ S. Kusakawa, 'Uses of pictures in printed books: The case of Clusius' *Exoticorum libri decem*', in *Carolus Clusius, Towards a cultural history of a Renaissance naturalist*, edited by F. Egmond, P. Hoftizer and R. Visser (Amsterdam, 2007), pp. 221–46 (pp. 225–26).

⁴⁷ C. Swan, 'The Uses of Realism in Early Modern Botany', in *Visualizing Medieval Medicine and Natural History, 1200–1550*, edited by A. Givens, K.M. Reeds and A. Touwaide (London, 2006), pp. 239–49 (pp. 243–44).

mythical animals, but also alludes to the fauna and animal products that were often observed by the Portuguese navigators, including sea lions, ostriches, Persian horses, elephants, corals, pearls, and amber.⁴⁸ Moreover, he shows an awareness of their contribution to trade and modern knowledge.

3. The place of exotic animals at the Portuguese Court

In 1504, King Manuel I commissioned a series of Flemish tapestries entitled *The Voyage to Calicut* from the Tournai tapestry maker Gilles le Castre. These tapestries were intended to celebrate Portugal's establishment of a sea route to India via the Cape of Good Hope. They are testimony to the power of the Portuguese seaborne empire to create a vision of its control and authority over geographically distant cultures.⁴⁹ One of the tapestries in this series, *The Unshipping of Goods*, represents the new opportunities afforded by the commerce of rare and exotic animals from the East.⁵⁰ It depicts ostriches, some caged exotic birds, and feline animals being taken off from four Portuguese *naus* in a seaport (Figure 5). Also represented is a fabulous unicorn, a creature of which it was still uncertain whether it existed or not in these other continents, of which so much was yet unknown by Europeans.

According to Damião de Gois' *Description of the City of Lisbon* (1554), it was not even necessary to go far afield to find legendary creatures. He reports that mermaids and mermen were often seen along the Portuguese coast by trustworthy witnesses.⁵¹ However, the unicorn was not just a fantastic creature. It was highly charged with symbolic and religious meaning in medieval bestiaries.⁵² The symbolic value that the unicorn still had in European society might have been sufficient reason to include an image of the fantastic animal among naturalistic and more or less accurate representations of animals from the East.

Furthermore, William B. Ashworth, Jr, has reminded us that during the Renaissance the fantastic and the allegorical were still considered an essential aspect of the study of the natural world.⁵³ Indeed, the renewed natural historical works of Conrad Gessner and Ulisse Aldrovandi attribute special importance to the emblematic meaning of various animals and present visual representations of fantastic and monstrous creatures. Similarly, in her study concerning human

⁴⁸ B. Osório, *A fauna dos Lusíadas* (Lisbon, 1906). On the flora of *The Lusíads*, see Conde de Ficalho, *Flora d' os Lusíadas* (Lisbon, 1994).

⁴⁹ On the political meaning of this and other large-scale tapestry series for the imperial courts of the period, see L. Jardine and J. Brotton, *Global Interests: Renaissance Art between East and West* (London, 2000), pp. 63–131.

⁵⁰ On the commissioning of these tapestries and on their location in various museums of the world, see, M.F. P Leite, 'Le débarquement', in *Feitorias. L'art au Portugal au temps des grandes découvertes* (Antwerp, 1991), pp. 145–46. Other tapestries commissioned by the Portuguese nobility of the period also represent exotic animals such as elephants, ostriches and monkeys. See, for example, the series of Flemish tapestries commemorating the victories of D. João de Castro in India. The original drawings have been attributed to the Portuguese painter António Campelo. On these tapestries, see F. Paulino (ed.), *Tapeçarias de D. João de Castro* (Lisbon, 1995).

⁵¹ D. de Gois, *Descrição da Cidade de Lisboa* [1554] (Lisbon, 2001), pp. 34–36.

⁵² On the meaning of the unicorn in classical and medieval literature, see J. Cherry, *Mythical Beasts* (London, 1995), pp. 44–71.

⁵³ W.B. Ashworth, Jr, 'Emblematic natural history of the Renaissance', in *Cultures of Natural History*, edited by N. Jardine, J. Secord and E. Spary (Cambridge, 1996), pp. 17–37.

creations of the hydra and the basilisk, Paula Findlen has shown how the process of inventing nature fascinated early modern naturalists.⁵⁴ She has stressed how for many people such creatures were sufficiently charged with religious meaning that it would have been heretical to suggest that they were anything less than God's will. Therefore, the ability of many naturalists to look critically at the anatomy of man-made hydras and basilisks reflected a shift in the religious and intellectual climate of the sixteenth century.

One of the destinations of the animals shipped from India were the menageries of King Manuel I. Elephants and other large animals were stabled in his palace at Estãos and smaller species such as birds, gazelles, antelopes, and lions in his palace at Ribeira, both located in Lisbon.⁵⁵ In the chronicle of his reign by Damião de Gois, emphasis is placed on the fact that he was

the first Christian King of Europe to receive elephants from India, of which he had five altogether, four males and a female. When riding through the city. . . these elephants went far ahead behind an Indian rhinoceros. Behind the elephants and before His Majesty came a Persian horse with a Persian hunter carrying a lynx sent by the King of Ormuz.⁵⁶

The king's exotic entourage had a crucial role in the image he wished to construct for himself as a magnificent and omnipotent sovereign.⁵⁷ It also afforded Lisbon citizens to enjoy the pleasures of the exotic. In this way, the experience of the wonders of the natural world permeated all levels of educated people.⁵⁸

Another media where we can find visual representations of exotic animals is that of ornamental manuscript charts made by professional artist-cartographers. These were made not for the purposes of navigation, but to adorn the salons and studies of Kings, Cardinals, and wealthy patrons of geographical studies.⁵⁹ One such example from this period is Lopo Homem-Reineis' 1519 'Chart of the East' (Figure 6). It includes the representation of two Indian elephants and a rhinoceros. The cartographer might have seen these animals either in Asia or in Lisbon, but, as in other cartographic charts, the diminutive size and the almost stylized features of the representation give it an essentially symbolic meaning. As Wilma George has argued, the position of animals on world maps was not arbitrary, not 'a simple desire to picture newly discovered animals', but rather an attempt to use characteristic animals

⁵⁴ P. Findlen, 'Inventing Nature: Commerce, Art, and Science in the Early Modern Cabinet of Curiosities', in *Merchants & Marvels: Commerce, Science and Art in Early Modern Europe*, edited by P.H. Smith and P. Findlen (New York, 2002), pp. 297–323.

⁵⁵ I.V. Barbosa, *Apointamentos para a História das Coleções de Zoologia em Portugal* (Lisbon, 1885), p. 5. The first references to Portuguese menageries date back to the end of the thirteenth century to King D. Diniz. It is known that the menagerie of King Afonso V had some animals from Africa of which. In 1475, he offered a few to King Louis XI of France. See G. Loisel, *Histoire des menageries de l'antiquité à nos jours* (Paris, 1912), pp. 215–20. On menageries and the exchange of exotic animals, see also A.V.N. Kislring Jr, 'Colonial Menageries and the Exchange of Exotic Faunas', *Archives of Natural History* 25 (1998), 303–20.

⁵⁶ D. de Gois, *Crônia do Felicissimo Rei D. Manuel* [1566–1567] (Coimbra, 1926), p. 198.

⁵⁷ V.P. dos Santos, 'O exotismo na vida portuguesa na época de D. Manuel', *Panorama* 32 (1969), 84–93.

⁵⁸ On the close relationship between 'high' and 'low' culture in the appreciation of wonders of nature, see F. Egmond and P. Mason, *The Mammoth and the Mouse, Microhistory and Morphology* (Baltimore, MD, 1997), pp. 7–41.

⁵⁹ A.F. Bouza-Álvares, 'Cultura escrita e história do livro: a circulação manuscrita nos séculos XVI e XVII', *Revista da Biblioteca Nacional*, 9–10 (2002), 63–95.



Figure 5. *The Unshipping of Goods* from the *Voyage to Calicut* tapestry series, Workshop of Jean Grenier, 1502. Banco Nacional Ultramarino, Lisbon. Courtesy of the Portuguese National Library.

as emblems of these continents.⁶⁰ In the case of the elephant and the rhinoceros, they came to represent Africa and Asia themselves. Victoria Dickenson has also noted that the attempts of the map makers to depict animals from the Orient is related to the



Figure 6. *Chart of the East*, Lopo Homem-Reineis, 1519. Portuguese National Library, Lisbon. Courtesy of the Portuguese National Library.

⁶⁰ W. George, *Animals and Maps* (Berkeley, CA, 1969), p. 23.

medieval tradition of bestiaries and emblem books and that, at the same time, they illustrate some of the first attempts to use illustration as datum as well as symbol.⁶¹

Illuminated manuscript books were one of the favoured mediums of D. Manuel I and other members of the nobility in the ostentation of the wealth and power gained from the Portuguese discoveries. By the end of the fifteenth century, the importance of these kind of books had declined in other European countries in relation to the increasing importance of the printed press. They enjoyed, however, great success at the Portuguese court during the first decades of the sixteenth century.⁶²

The books produced in Portugal reveal the Flemish origin of the genre and, in particular, the influence of the *ganto-burgeoise* school.⁶³ They do, however, incorporate new elements of Portuguese origin. Thus, Folios One, Two and Three of King Manuel I's *Book of Hours* are unusual in their presentation of computations and astronomical tables. The main purpose of the Books of Hours was to stimulate meditation and devotion but, as Peter Murrey Jones has stressed, the ownership of such lavishly illuminated books was in itself a matter of status and the projection of authority.⁶⁴ The inclusion of exotic animals in some of the folios in this work would certainly increase the cultural and social prestige associated with these kinds of works. In two of the illustrations, 'Rest in the Flight to Egypt' (Figure 7) and 'St. John the Baptist', an elephant and a rhinoceros are represented in the background.⁶⁵ They have both been attributed to António de Holanda, an illuminator of Flemish origin, and were made in the first quarter of the sixteenth century.⁶⁶ Holanda represented a rhinoceros in two other illuminated manuscript books, *The Breviary of the Countess of Bertandos* and *The Genealogy of the Infant D. Fernando*. It would have been possible for the artist to have seen the elephant and the rhinoceros in Lisbon, but their diminutive size in the images, especially that of the rhinoceros on Figure 7, gives them an essentially symbolic role. William Ashworth Jr as suggested that despite the origin of illustrations of animals from new lands as non-emblematic images, their very persistence and reuse rendered them emblematic.⁶⁷ During this period, they became symbols not only of Africa and Asia, as mentioned previously, but also of the success of the Portuguese discoveries in 'giving new worlds to the world'. They are also symbolic of an approach to the natural world based on first-hand observation.

It was during the reign of D. Manuel I that the Tower of Belém was constructed to commemorate the success of the Portuguese discoveries. Significantly, this was the first European monument to incorporate representations of the rhinoceros in the form of the tower's gargoyles. The close association between the image of D. Manuel I and exotic animals is also illustrated in a crude miniature drawing of the

⁶¹ V. Dickenson, *Drawn from Nature: Science and Art in the Portrayal of the New World* (Toronto, 1998), p. 34.

⁶² D. Marki, 'Introdução', in *Livro de Horas de D. Manuel*, edited by D. Marki (Lisbon, 1983), pp. 11–12.

⁶³ P. Dias, 'Livre d'Heures de D. Manuel', in *Feitorias: L'Art au Portugal au temps des grandes découvertes* (Antwerp, 1991), pp. 227–28.

⁶⁴ Jones (note 44), p. 23

⁶⁵ These are folios 98v and 271v in D. Manuel's *Book of Hours*, Museu Nacional de Arte Antiga, Lisbon.

⁶⁶ The work began in 1517 during the reign of D. Manuel I but only ended around 1538 in the reign of his son, D. João III. See Marki (note 32), p. 20.

⁶⁷ W. Ashworth Jr, W., 'The Persistent Beast: Recurring Images in Early Zoological Illustration', in *The Natural Sciences and the Arts: Aspects of Interaction from the Renaissance to the 20th Century, An International Symposium*, edited by A. Ellenius (Uppsala, 1985), pp. 46–66. See also W. Ashworth Jr, 'Emblematic natural history in the Renaissance', in *Cultures of Natural History*, edited by N. Jardine, J.A. Secord and E. Spary (Cambridge, 1996), pp. 17–37



Figure 7. *Rest in the Flight to Egypt*. In D. Manuel's *Book of Hours*, early sixteenth century. Museu Nacional de Arte Antiga, Lisbon. Courtesy of . Museu Nacional de Arte Antiga.

King himself riding an elephant. This picture appears on the title-page of the manuscript *Eight Book of Odiana*.⁶⁸

The growing literature on the practice of collecting and displaying natural and artificial curiosities in Europe has revealed that what usually qualified as objects and

⁶⁸ The *Eight Book of Odiana* belongs to a collection of sixty-one manuscripts initiated by King Manuel I at the beginning of the sixteenth century known as *Leitura Nova*. They are held at Arquivo Nacional da Torre do Tombo, Lisbon.

specimens for inclusion in cabinets of curiosities was the value derived from their rarity or scarcity.⁶⁹ Thus, the exotic, the singular and the anomalous had a prominent place in them. Moreover, cabinets of curiosities were usually conceived of as visual tributes to the variety and plenitude of nature and art.⁷⁰ They were also a visible manifestation that could confer moral, social, and economic status on the owner.

Animals and their products also had an important presence in the cabinets of curiosities owned by the Portuguese aristocracy in the sixteenth century. The most important collection belonged to Queen Catarina, the sister of the Holy Roman Emperor Charles V and wife of King João III.⁷¹ Among her Portuguese contemporaries, she was the most systematic and passionate collector of exotic Asian pieces, whether natural, man-made or a combination of the two. Her access to the endless supplies of goods in Lisbon satisfied not only her own collecting needs, but also those of her Hasburg relatives in Spain and in Austria, for whom she regularly acted as an intermediary in the procurement of exotic pieces. The animals that Catarina owned included elephants, monkeys, parrots, civet cats, and various insects, and nimal products such as corals, coconut shells from the Maldives, bezoar stones, porcupine stones from Malacca, elephant tusks, rhinoceros horns, and a narwhal whale tusk which was often considered to be a unicorn horn. They were usually encased in valuable jewellery or elaborately carved with mythological, allegorical, and religious scenes, mounted as vessels and or as reliquaries. It is also known that D. Duarte, the illegitimate son of D. João III, had an important collection of *naturalia* and art pieces, several of them brought from Goa to Lisbon via the Carreira da Índia.⁷² Therefore, the Portuguese aristocracy participated from an early age in the practice of collecting and displaying natural and artificial curiosities and had a pivotal role in their exchange between various European princes and aristocrats of the period. Moreover, the development of these kinds of collections was only possible in a framework of global commerce in which Portuguese tradesman and their foreign associates actively participated.

4. Exotic animals and political influence

Exotic animals became not only a symbol of the success of the Portuguese Discoveries, but also a significant means of obtaining from the Pope more privileges and power over the newly discovered lands. It was in this context that, in 1514, D.

⁶⁹ Especially representative are: K. Pomian, *Collectors and Curiosities: Paris and Venice, 1500–1800* [1987], translated by E. Wiles-Portier (Cambridge, 1994); P. Findlen, *Possessing Nature: Museums, Collections and Scientific Culture in Early Modern Italy* [1994], 2nd edition (Berkeley, CA, 1996); J. Elsner and R. Cardinal (eds.), *The Cultures of Collecting* (London, 1994); L. Daston and K. Park, *Wonders and the Order of Nature, 1150–750* (New York, 1998); K. Arnold, *Ken Cabinets for the Curious: Looking Back at Early English Museums* (London, 2006).

⁷⁰ The practice of displaying natural curiosities goes back to the exhibition of relics in churches of the Middle Ages. Besides relics, natural specimens like bones of giants were often exhibited in churches not only as a way of attracting attendance but also because of their special meaning in relation to the Biblical narrative. The discovery of large bones had been connected with the existence of giants at least from the time of the early church fathers, who derived biblical support for the existence of giants before the time of Noah from Genesis 6:4 ('There were giants in the earth in those days'). See A. Schnapper, *Le géant, la licorne et la tulipe: collections et collectionneurs dans la France du XVII^e siècle* (Paris, 1988), p. 98.

⁷¹ A.J. Gschwend, 'As Maravilhas do oriente: Coleções de Curiosidades Renascentistas em Portugal/The Marvels of the East: Renaissance Curiosity Collections in Portugal', in *A Herança de Rauluchantim! The Heritage of Rauluchantim*, edited by N.V. da Silva (Lisbon, 1996), pp. 82–127.

⁷² Silva (note 1), pp. 34–35.

Manuel sent a mission to Pope Leo X, in which exotic animals from India played a prominent role. These included a trained cheetah, an Indian fowl, dogs, parrots and parakeets, and a young elephant named Hanno, who was to receive great attention and signs of affection from the Pope, as amply documented by Silvio Bedini.⁷³

Learned Europeans knew already about the elephant from Pliny the Elder's *Natural History* and medieval bestiaries in which the animal and its mate usually represented Adam and Eve, who never desired each other and possessed no knowledge of coitus before the snake led them into temptation.⁷⁴ The elephants brought to Europe by the Portuguese in the sixteenth century contributed to a shift in the symbolism attributed to this animal. The presence of the animal in royal festivities at Lisbon and in other European towns, together with its new visual presence in tapestries, charts, and other media contributed to the secularization of its meaning. The semi-divine creature of medieval tradition could now be ludicrous as well as majestic, frivolous as well as wise, earthly, as well as otherworldly.⁷⁵ The elephant had also been associated, together with lions, tigers, and crocodiles, with the exotic in the Roman empire. In particular, the elephant had been associated with the triumph of Roman generals such as Caesar, and D. Manuel seems to have seen himself as the new Caesar, conqueror of an Eastern empire. This is, at least in part, why he attributed so much importance to the exotic animals that he held in his menagerie and to the inclusion of the elephant Hanno in the Portuguese embassy to Pope Leo X.

The elephants brought to Europe by the Portuguese also had an impact on visual representations.⁷⁶ The development and increasing importance of naturalism during the Renaissance enabled representations to resemble the original animal more closely. Some of the sixteenth century images of the elephant were not originals but copies of representations made from life. Such was the case of Hanno's illustration done by the Portuguese artist and architect Francisco de Holanda in 1539–40 when he was visiting Rome to study its antiquities in a tour sponsored by King John III of Portugal, the son of King Manuel (Figure 8). Hanno had already died on 8 June 1516, and the representation was based on a mural commissioned by the Pope from Raphael to perpetuate the memory of the creature. The monument no longer survives. Although Holanda was a renowned artist, the elephant's proportions are misrepresented in his drawing. However, it should also be noted that his was just a traveller's sketch of a monument with special meaning for Portuguese history.⁷⁷

⁷³ A.S. Bedini, *The Pope's Elephant* (Manchester, 1997).

⁷⁴ J.J. Cohen, 'Inventing with Animals in the Middle Ages', in *Engaging with Nature: Essays on the Natural World in Medieval and Early Modern Europe*, edited by B.A. Hanawalt and L.J. Kiser (Notre Dame, 2008), pp 39–62 (p. 46).

⁷⁵ J.E.B. Lloyd, *African Animals in Renaissance Literature and Art* (Oxford, 1971), p. 157

⁷⁶ One of the first live elephants brought by the Portuguese from Africa which was offered by King Afonso V of Portugal to René the Good, duke of Anjou and count of Provence and seems to have been influential in representations of this animal by German artists during this period. Likewise, the Indian elephant offered by King John III of Portugal to Archduke Maximilian II of Austria in 1563 seems to have been influential in the depiction of this animal in the Low countries; see Lach (note 2), p. 133 and pp. 150–58.

⁷⁷ On Francisco de Holanda, see S. Deswarte, *Contribution à la connaissance de Francisco de Holanda* (Paris, 1974). A pen drawing of Hanno after a Raphael drawing which no longer survives has been found at the *Kupferstichkabinett* in Berlin. Authorship is unknown, and the copy presents obvious similarities with Holanda's pen drawing. However, it seems to be closer to Raphael's original. Giulio Romano and Giovanni da Udine have also made drawings of Hanno, either from life or on the basis of Raphael's drawings, Lach (note 2), p.142.

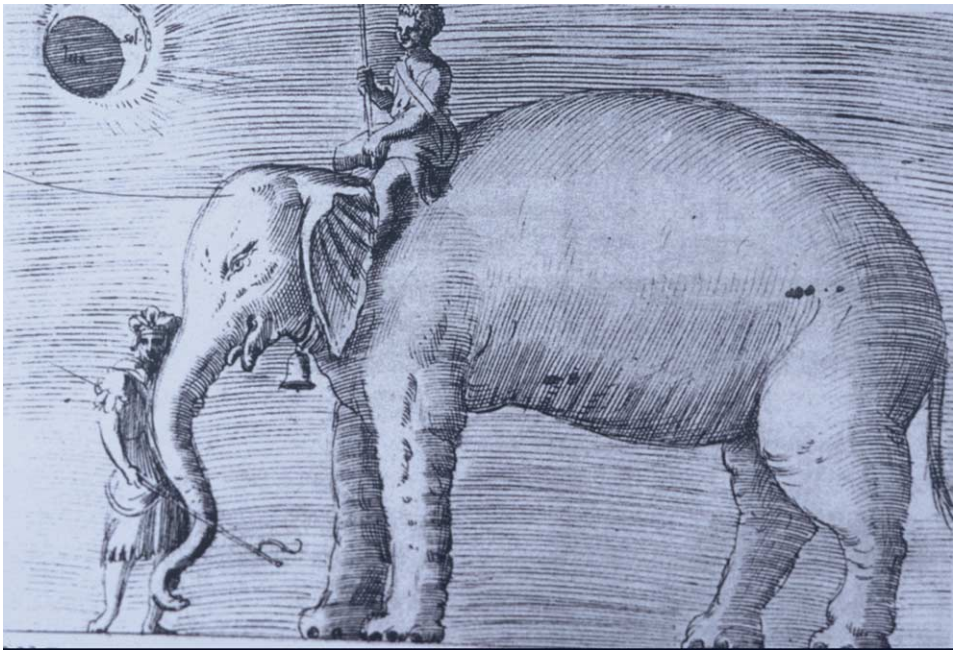


Figure 8. *Hanno*, pen drawing by Francisco de Holanda, 1539-40. Library of San Lorenzo de El Escorial. Courtesy of the Portuguese National Library.

By the end of 1515, the success of Hanno at the Papal Court encouraged D. Manuel I to send Pope Leo X another embassy with an even more outlandish present: an Indian rhinoceros described by the King himself as ‘something so new and never before seen in these parts and almost never found in books’.⁷⁸ This was the first live rhinoceros to appear on the European continent since the third century.⁷⁹ Nevertheless, the present did not arrive at its destination alive because of a shipwreck near Genoa. It has often been claimed that the Indian rhinoceros was offered to the Pope as a stuffed animal but this is controversial. In fact, the letter of King Manuel to Miguel da Silva, his ambassador in Rome, of 11 August 1516 confirms the loss of everything that was being transported in the ship and states ‘the great displeasure we felt that His Holiness did not see an animal that was such a great novelty’.⁸⁰

Some time before the departure of the Portuguese embassy, news of the rhinoceros was already circulating in Europe. Apparently, no Portuguese pamphlet concerning the rhinoceros has been published or survived, but it is known that an Italian one including a rudimentary woodcut image was printed two months after the arrival of the beast in Lisbon.⁸¹ A more detailed and informative woodcut engraving of the animal by Hans Burgkmair was also printed in 1515. T. H. Clarke has

⁷⁸ Quoted Costa (note 12), p. 46. Other animals included in the Portuguese embassy were an Indian elephant, a panther and a Persian horse.

⁷⁹ Bedini (note 38), p. 115.

⁸⁰ Quoted in Costa (note 12), pp. 46-47.

⁸¹ L. de Matos, ‘Forma e natura e costumi del rinoceronte’, *Boletim Internacional Bibliografia Luso-Brasileira* 1(1960): 3387-398.

suggested that this engraving had some influence on the representation of the rhinoceros.⁸² However, it was Albrecht Dürer's woodcut engraving of the same rhinoceros that became more influential on representations of the animal.⁸³ This image was based on a drawing by a Portuguese artist and a letter sent to Nürnberg by the Moravian printer Valentim Fernandes who had seen the rhinoceros in the festivities of Lisbon on the occasion of the departure of the Portuguese embassy to Rome on 3 June 1515.⁸⁴ It was previously mentioned that António de Holanda included in various of his works representations of the rhinoceros. This fact has led Markl Dagoberto to suggest that he was the artist responsible for the drawing of the animal that was sent to Dürer from Lisbon.⁸⁵

If, on the one hand, as mentioned previously, Portugal wanted to control the news and trade associated with the Portuguese discoveries, on the other hand it was not self-sufficient to accomplish its goals and hired foreign navigators, arms-makers, map-makers, printers, and commercial agents as aides in their maritime and trading activities. Some of these foreigners acted as agents and informants for other European countries. As mentioned previously, this seems to have been the case of Fernandes. The drawing of the rhinoceros and the accompanying letter were also likely to have been part of Fernandes's role as an informant on news associated with the Portuguese discoveries.

Based on the information presented in the drawing and the letter sent by Fernandes, Dürer, who had never seen a rhinoceros, living or dead, made his drawing and woodcut engraving of the animal in 1515. Impressions of the woodcut were published the same year. F. J. Cole has suggested an explanation for the extra dorsal horn in Dürer's illustration. According to Cole, he

had presumably heard of a two-horned rhinoceros, but in his own time and for long after there was no convincing evidence of the occurrence of a species with two nasal horns. ... perhaps anxious that his figure should not be found wanting in so striking a feature, he ventured to invent a second horn on the withers.⁸⁶

It is now known that dorsal horns are actually a feature which is found in aged Indian rhinoceros or possibly those with dry skins.⁸⁷ However, the fact that the letter sent by Fernandes speaks only of one horn and that the other two known representations of the same rhinoceros depict only one horn testifies to the fictional nature of the dorsal horn represented by Dürer. Independently of its degree of accuracy, Dürer's image of the rhinoceros became a 'true' representation of the

⁸² T.H. Clarke, 'The iconography of the Rhinoceros from Dürer to Stubbs, *The Connoisseur* 185(1974): 113–22.

⁸³ F.J. Cole, 'The History of Albrecht Dürer's Rhinoceros in Zoological Literature', in *Science, History and Medicine, Science, History and Medicine: Essays on the Evolution of Scientific Thought and Medical Practice Written in Honour of Charles Singer*, edited by E.A. Underwood (Oxford University Press, 1953), pp. 337–56. See also note 45.

⁸⁴ The German original of the letter has been lost but a copy of an Italian translation exists in the Main Library in Florence. A translation is published in Costa (note 12), pp. 33–41.

⁸⁵ M. Dagoberto, 'O Rinoceronte do nosso rei de Portugal: estudo sobre a origem de uma gravura de Albrecht Dürer', in *Arte, História e Arqueologia*, edited by P.G. Barbosa (Lisbon, 2006), pp. 161–76 (pp. 173–74).

⁸⁶ Cole (note 46), p. 340.

⁸⁷ G. Bolton, *A Book of Beasts and Birds* (London, 1903), pp. 38–42.

animal for over two centuries.⁸⁸ This was mainly due to the fact that the artist was a great master not only of the conventions of the new naturalistic style but also of the art of engraving. It was the excellence of the woodcut engraving that enabled the image to circulate as a successful commodity.

Together with other illustrations of exotic animals, Dürer's image of the rhinoceros indicates the important role of the Portuguese as mediators in the exchange of information relating to natural historical knowledge in this period. In fact, the sixteenth century saw the rise of a novel phenomenon in the world of learning: cooperation between different individuals of diverse nationalities, professions, and religions who sent one another specimens or at least drawings or written descriptions of unfamiliar herbs and strange animals which they had come across.⁸⁹ As we have seen, informants and traders also had a significant role in the circulation of information relating to knowledge and illustration of the natural world. Dürer himself had a very close relationship with the Portuguese trading-managers in Antwerp, with whom he exchanged drawings for a great diversity of products including rare bird feathers and green parrots.⁹⁰

Another sixteenth-century illustration of a rhinoceros is of a female specimen offered to the Portuguese King D. Sebastião in 1577 (Figure 9). The king became very fond of the beast living in his menagerie and commissioned a drawing by the artist Pero Andrade Caminha. The illustration was to be presented at the end of his manuscript *A Summary of the Kings of Portugal* with a brief accompanying description:

This is an illustration of a female which is not as fast as the male and has longer ears. She is named *abada* in the language of the country of her origin. She is very docile and languid. She eats whatever she is given, silicet, straw, barley, wheat and other vegetables. She is the size of a large bull. They say she is expert at curing lepers, that a black man who had taken care of her was cured by her breath and that her blood is used in many medicines. His Majesty the King holds her in such high esteem that he ordered an illustration of her.⁹¹

The two depicted horns and the designation of the animal as *abada* indicate that this was not an Indian but an African rhinoceros. Most probably, this was the second rhinoceros to have reached Portugal in the sixteenth century and the one described by Filippo Sassetti as 'the marvel of Lisbon' in a letter of 1579 to his correspondents in Florence.⁹² It seems also likely that it was the same specimen that was sent to Madrid in 1582 as a gift to King Philip II who, by now, was also the king of Portugal.⁹³

The very limited access to the representation of the second rhinoceros that arrived in Portugal, as well as to the animal, meant that, independently of its degree of

⁸⁸ Dürer's image of the rhinoceros was promptly incorporated in Conrad Gessner's *Historia Animalium* (Tiguri, 1555–1558).

⁸⁹ See P.H. Smith and P. Findlen (2002), 'Commerce and the Representation of Nature in Art and Science', in *Merchants & Marvels: Commerce, Science and Art in Early Modern Europe*, edited by P.H. Smith and P. Findlen (New York), pp. 11–25.

⁹⁰ J. de Vasconcelos, *Albrecht Dürer e a sua Influência na Península* (Coimbra, 1929), pp. 15–26. See also V. Pavão dos Santos, 'O exotismo na vida portuguesa na época de D. Manuel', *Panorama*, 32(1969), 84–93 (91–92).

⁹¹ I.C. Almeida and R.A. Lino, *O Rinoceronte: Pegadas na Torre* (Lisbon, 1992), p. 47.

⁹² F. Sassetti, in *Lettere di Filippo Sassetti*, edited by E. Marcucci (Florence, 1885), pp. 134–35.

⁹³ J. Castilho, *A Ribeira de Lisboa*, 2 vols (Lisbon, 1941–48), II, p. 173.



Figure 9. *Female Rhinoceros Offered to the Portuguese King D. Sebastião in 1577*, colour drawing attributed to the Portuguese artist Pero Andrade Caminha. In the manuscript *Sumário dos Reis de Portugal*. Private collection.

realism, it did not have any influence on the natural historical knowledge of this animal. This can be seen, for example, in the fact that it did not prompt a comparative study with the Asian specimen.

5. Conclusions

This paper has shown that some of the first European descriptions of animals from the East were an important part of Portuguese travel literature. These texts testify to the increasing importance of personal observation and to the art of description in the knowledge of the natural world, a feature that was fundamental in the development of natural history.⁹⁴ There was, however, a clear disproportion between the intense expansionist and commercial activity of the Portuguese and its lack of reflection in print publications. If, on the one hand, trade contributed to Portugal's global expansion, on the other hand the secrecy associated with trade and military interests seems to have hindered the publication of literature associated with the Portuguese discoveries written before the middle of the sixteenth century. In addition, the Portuguese printing press of the period did not enjoy the same achievements and expansion as other European countries. On the whole and although copies of manuscripts of Portuguese travel literature circulated in the period, the lack of publications had a negative influence on the transmission of knowledge concerning exotic animals seldom seen or completely unknown in Europe. If, in some sense, Portugal was open to new worlds, it is also true that it was often closed to itself.

The Portuguese circulation of sixteenth-century travel literature concerning Africa and Asia can, in particular, be *contrasted with the Itinerario, or travel book of Jan Huyghen Van Linschoten to the East or Portuguese Indies*. It was first published

⁹⁴ See B.W. Ogilvie, *The Science of Describing: Natural History in Renaissance Europe* (Chicago, 2006), pp. 139–208.

in 1596, shortly after Linschoten's return from Goa where he had been in the service of the Portuguese bishop Vicente de Fonseca.⁹⁵ The work was a success and it was soon translated from Dutch into English (1598), German (1598), Latin (two editions, both in 1599), and French (1610). It is in the second half of part one that Linschoten describes the plants and animals he saw or of which he had good accounts especially from Portuguese sources. It should be stressed that in this task, he had the invaluable assistance of the Dutch naturalist Paludanus. Indeed, as Harold J. Cook has remarked, 'he helped so much that he was virtually co-author of Linschoten's *Itenerario* turning the work from a personal account of travels into a description of the East Indies in line with the best new work on natural history'.⁹⁶

Unlike Italy and some northern European nations, Portugal was not a country of naturalists. Only Garcia de Orta and Christovão da Costa could be considered as such, and it was mainly due to the efforts of a foreigner, Carolus Clusius, that their works become widely known in Europe. In contrast with Orta and Costa, Clusius was part of an excellent network of naturalists, had access to excellent printers, draughtsmen, and engravers, published in Latin, the lingua franca of the period, and, at various points of his life, had access to patronage and to institutional positions that were crucial for the establishment of natural history as a discipline.⁹⁷ The same can be said of other distinguished European naturalists of the period.

This paper has also revealed the variety and richness of media in which exotic animals were depicted in sixteenth-century Portugal. The various tapestries, charts and illuminated manuscript books that were commissioned by the nobility become treasured possessions with a special material, cultural, and social meaning. Some of them were probably seen as a visual metaphor of the success of the Portuguese discoveries. However, this does not undermine their contribution to a new sense of the variety and meanings of the natural world. It is also significant that this was an experience of nature that was dissociated from the words of ancient and modern authorities.

The Participation of the Portuguese aristocracy in the culture of collecting natural and artificial curiosities has also been stressed. The development of natural history in the sixteenth century was highly dependent upon the material abundance that flowed from European cities. Knowledge of nature grew in proportion to the expansion of European trade, and Portugal had a crucial role in supplying new animals, plants, drugs, and various objects from Asia and other parts of the world not only to the European aristocracy but also to naturalists and other persons who intended to reinforce their economic and social status.

Exotic animals such as the elephant and the rhinoceros were, in particular, used by Portuguese kings to obtain political influence at the Vatican and in other European countries. However, it was not only political power that was gained in these kind of exchanges. The various elephants and the two rhinoceroses that were brought from Africa and India by the Portuguese had a profound and lasting influence on the visual representation of these animals in art and publications of natural history.

⁹⁵ Linschoten stayed in Goa between 1583 and 1588.

⁹⁶ Cook (note 6), p. 124.

⁹⁷ F. Egmond, 'Clusius and friends: cultures of exchange in the circles of European naturalists', in *Carolus Clusius, Towards a cultural history of a Renaissance naturalist*, edited by F. Egmond, P. Hoftizer and R. Visser (Amsterdam, 2007), pp. 9–48.

The Portuguese empire was mostly a sea empire, permanently traversed by merchants, travellers, soldiers, missionaries and all sorts of voyagers who, in many informal ways, collected and exchanged information about nature. It is mainly in the context of travel, trade and exchange that Portugal contributed to the invention of natural history in the sixteenth century.

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